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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,030

09/25/2006

Yutaka Shibui

HEI-022

7315

32628

7590

05/30/2008

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EXAMINER

ADDISU, SARA

ART UNIT

PAPER NUMBER

3724

MAIL DATE

DELIVERY MODE

05/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/594,030	Applicant(s) SHIBUI ET AL.	
	Examiner SARA ADDISU	Art Unit 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/25/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujinawa (JP2002341915 A), in view of Yamato (USP 6,754,555).

'915 teaches a method of machining a work in a numerically controlled lathe having a rotatable spindle (220), a first tool rest (T1) configured to move back and forth relative to the spindle in a spindle axis line direction (see horizontal arrow) and in a direction crossing a spindle axis line (see vertical arrow), and a second tool rest (T2) configured to move back and forth relative to the spindle in the spindle axis line direction (see horizontal arrow), the method being characterized by comprising the steps of: judging which of the first tool rest and the second tool rest tools used in current machining are installed on; judging whether tools used in next machining are the tools installed on the first tool rest or the tools installed on the second tool rest ('915, abstract and figures 4, 6 & 10). '915 also teaches moving one tool rest (T2) toward the standby position (B1) at a fast feed speed when the tool rest (T1) on which the tools used in the current machining are installed is different from the tool rest on which the tools used in the next machining are installed; obtaining a feed speed for the other tool rest so that

the other tool rest on which the tools (T1) used in the next machining and moving (T1) to its standby position (A2) followed by increasing the speed of the other tool rest (T2) to a machining start position (B2) ('915, figures 4a-4d). Regarding claim 2, although '915 teaches a single tool on each tool rest, it is old and known to have plurality of tools on a tool rest depending on the machining operation and type of workpiece being machined (as evidenced by JP 2001-018101, figure 8).

However '915 does not teach interference boundary positions of the first and second tool rests and numerically controlling and checking the cutting edges of the tools installed on the tool rests for interference check.

YAMATO teaches a method of machining a work in a numerically controlled lathe having a rotatable spindle (106), a first tool rest (104) and a second tool rest (105) ('555, figure 6 and col. 10, line 60 through col. 11, line 10). YAMATO also teaches said first and tool rests having interfering relationships (A) and (B) between the spindle portion (106) and having an interference preventing apparatus which performs an interference checking operation for plural interfering relationships between a movable member and a structural member whereby the interference preventing apparatus comprises: an interference area defining section for defining an interference area where the movable member is likely to interfere with the structural member; an interference area data storage section for storing therein data of the defined interference area; and an interference checking section which performs the interference checking operation for any of the interfering relationships on the basis of the interference area data and target movement position data of the movable member and, if a possibility of the interference

is confirmed, outputs an interference confirming signal to the numerical controller ('555, abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify "915 such that it adapts an inference prevention means, as taught by YAMATO for the purpose of preventing interference between moving parts during machining.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Addisu at (571) 272-6082. The examiner can normally be reached on 8:30 am - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sara Addisu/
Examiner, Art Unit 3722
5/24/08

/Boyer D. Ashley/

Supervisory Patent Examiner, Art Unit 3724